

Rifleman Radio

Executive Summary

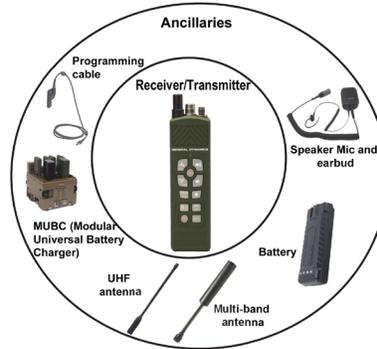
- The Army tested the AN/PRC-154A Rifleman Radio in support of company-level operations conducted in woodland and urban terrain during the Nett Warrior IOT&E at Fort Polk, Louisiana, in November 2014.
- The Rifleman Radio is the primary communications device for the Nett Warrior and was critical in assessing the Nett Warrior operationally effective in platoon and company-level mounted formations, as well as in dismounted platoon-level formations.
- The Rifleman Radio, when integrated into Nett Warrior, experienced two suitability deficiencies: a high occurrence of batteries overheating, and short battery life.
- The Soldier Radio Waveform (SRW) on the Rifleman Radio is not survivable against cyber attacks. Details are in DOT&E's classified annex to the Nett Warrior IOT&E report dated May 2015.
- The Army is conducting a full and open competition of the Rifleman Radio between the Thales AN/PRC-154B(V)1 and Harris AN/PRC-159(V)1 radios in FY16 with a projected delivery of 4,000 radios in 2QFY17.

System

- The Handheld, Manpack, and Small Form Fit program evolved from the Joint Tactical Radio System program and provides software-programmable digital radios to support the Army's tactical communications requirements. The two radios that comprise the Handheld, Manpack, and Small Form Fit program are the AN/PRC-154A Rifleman Radio and the AN/PRC-155 Manpack radio.
- The Army is replacing the General Dynamics/Thales AN/PRC-154A with either or both the Thales AN/PRC-154B(V)1 and the Harris AN/PRC-159(V)1.
- The Rifleman Radio is a handheld network radio with National Security Agency Type 1 encryption for Secret communications and data.
- The Rifleman Radio is capable of receiving/utilizing external Precise Position Service based services.
- In addition to functioning as a stand-alone, handheld radio, the Army is fielding the Rifleman Radio as the primary communication device for the Nett Warrior program. The Army is developing a vehicle-mounting kit for the radio.

Activity

- The Army tested the AN/PRC-154A Rifleman Radio as part of the Nett Warrior IOT&E Phases 1 and 2 in accordance with DOT&E-approved test plans:
 - Phase I occurred in May 2014 during Network Integration Evaluation 14.2 at Fort Bliss, Texas.



Current Low-Rate Initial Production Rifleman Radio
PRC-154A

Full and Open Competition Rifleman Radio
PRC-154B(V)1 & PRC-159(V)1

- The AN/PRC-154A Rifleman Radio is a single-channel radio with a commercial GPS receiver to:
 - Operate at various transmission frequencies using the SRW, which enables the radios to form an ad-hoc data and voice communications network with other SRW-capable radios.
 - Provide 5 watts maximum power output in handheld, and 20 watts maximum power output in vehicle mount.
 - Allow Soldiers to transmit position location information across the SRW network. The position location capability of the Rifleman Radio is disabled when connected to Nett Warrior.

Mission

Army leaders and Soldiers use Rifleman Radios to communicate and create networks to exchange voice, video, and data using the SRW during all aspects of military operations.

Major Contractors

- General Dynamics, C4 Systems – Scottsdale, Arizona (AN/PRC-154A)
- Thales Communications, Inc. – Clarksburg, Maryland (AN/PRC-154A and AN/PRC-154B(V)1)
- Harris Corporation – Rochester, New York (AN/PRC-159 (V)1)

- Phase II occurred in November 2014 at Fort Polk, Louisiana.
- The Rifleman Radio, when integrated into Nett Warrior, experienced two suitability deficiencies: a high occurrence of batteries overheating, and short battery life.

FY15 ARMY PROGRAMS

- The Army is conducting a full and open competition of the Rifleman Radio for a Full-Rate Production decision.
- The Army released a Request for Proposal January 5, 2015.
- Harris and Thales submitted Rifleman Radio candidates for Army qualification testing in July 2015.
- The Army has planned IOT&E for the Thales AN/PRC-154B(V)1 and the Harris AN/PRC-159(V)1 for 4QFY16.

Assessment

- The AN/PRC-154A Rifleman Radio, when integrated into the Nett Warrior System, experienced two suitability deficiencies: a high occurrence of batteries overheating, and short battery life. These deficiencies contributed to Soldiers concluding that the radio was not yet acceptable for combat in its current Nett Warrior configuration. The Nett Warrior Program Manager made changes to the Nett Warrior system to mitigate Rifleman Radio suitability deficiencies.
- At the Nett Warrior IOT&E Phase 2 in November 2014, the AN/PRC-154A Rifleman Radio supported the infantry company's rifle platoons as they operated in woodland terrain with both voice and data communications.
- The SRW on the Rifleman Radio is not survivable against cyber attacks. Details are in DOT&E's classified annex to the Nett Warrior IOT&E report dated May 2015.

- The radio provided voice communications across the platoon's Area of Operations.
- The Rifleman Radio demonstrated improved reliability compared to previous test results, demonstrating a Mean Time Between Essential Function Failure of 328 hours, with a 248 – 441 hour 80 percent confidence interval. This translates into a 93 percent chance of completing a 24-hour mission without a failure. The Rifleman Radio has a requirement to complete a 24-hour mission 95 percent of the time without an Essential Function Failure, which translates into a Mean Time Between Essential Function Failure of 477 hours.
- The Thales and Harris Rifleman Radios passed qualification testing, which enables them to proceed to a product manager's customer test in 1QFY16.

Recommendations

- Status of Previous Recommendations. The Army addressed all previous recommendations.
- FY15 Recommendation.
 1. The Army should continue testing the Rifleman Radio in a configuration that is operationally representative of the way it will be employed as part of the Nett Warrior system.